

Notice of Allowability

Application No.

09/552,760

Examiner

Pablo N. Tran

Applicant(s)

ASHBY ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 06/09/06.
2. ☒ The allowed claim(s) is/are 1, 3-4, 6-16, 18, 20-38 re-numbered 1-34.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Ross Viguet (Reg. No. 42,203) on June 09, 2003.

The application has been amended as follows:

Regarding claim 1, replace “ . ” with -- ; wherein each of said first single sideband mixer and said second single sideband mixer comprise:

a first phase shifter accepting an signal input thereto and splitting said input signal

into at least two input signal components, wherein said at least two input signal components have a predetermined non-zero phase differential there between;

a second phase shifter accepting a carrier signal input thereto and splitting said carrier signal into at least two carrier signal components, wherein said at least two carrier signal components have a predetermined non-zero phase differential there between;

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a first mixer accepting a first input signal component of said at least two input signal components and a first carrier signal component of said at least two carrier signal components thereby providing a first mixed signal and a first image signal;

a second mixer accepting a second input signal component of said at least two input signal components and a second carrier signal component of said at least two carrier signal components thereby providing a second mixed signal and a second image signal; and

a combiner accepting said first mixed signal, said first image signal, said second mixed signal, and said second image signal, wherein said first mixed signal and said second mixed signal are substantially constructively combined by said combiner and said first image signal and said second image signal are substantially destructively combined by said combiner. --

Regarding claim 6, replace " 5 " with – 1 –

Regarding claim 15, replace " . " with -- ; wherein each of said first single sideband mixer and said second single sideband mixer comprise:

a first phase shifter accepting an signal input thereto and splitting said input signal into at least two input signal components, wherein said at least two input signal components have a predetermined non-zero phase differential there between;

a second phase shifter accepting a carrier signal input thereto and splitting said carrier signal into at least two carrier signal components, wherein said at least two carrier signal components have a predetermined non-zero phase differential there between;

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a first mixer accepting a first input signal component of said at least two input signal components and a first carrier signal component of said at least two carrier signal components thereby providing a first mixed signal and a first image signal;

a second mixer accepting a second input signal component of said at least two input signal components and a second carrier signal component of said at least two carrier signal components thereby providing a second mixed signal and a second image signal; and

a combiner accepting said first mixed signal, said first image signal, said second mixed signal, and said second image signal, wherein said first mixed signal and said second mixed signal are substantially constructively combined by said combiner and said first image signal and said second image signal are substantially destructively combined by said combiner. –

Regarding claim 18, replace “ 17 ” with – 15 –

Regarding claim 30, replace “ . ” with -- ; wherein each of said first single sideband mixer and said second single sideband mixer comprise:

a first phase shifter accepting an signal input thereto and splitting said input signal into at least two input signal components, wherein said at least two input signal components have a predetermined non-zero phase differential there between;

a second phase shifter accepting a carrier signal input thereto and splitting said carrier signal into at least two carrier signal components, wherein said at least two carrier signal components have a predetermined non-zero phase differential there between;

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a first mixer accepting a first input signal component of said at least two input signal components and a first carrier signal component of said at least two carrier signal components thereby providing a first mixed signal and a first image signal;

a second mixer accepting a second input signal component of said at least two input signal components and a second carrier signal component of said at least two carrier signal components thereby providing a second mixed signal and a second image signal; and

a combiner accepting said first mixed signal, said first image signal, said second mixed signal, and said second image signal, wherein said first mixed signal and said second mixed signal are substantially constructively combined by said combiner and said first image signal and said second image signal are substantially destructively combined by said combiner. —

Allowable Subject Matter

3. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 1, 15, 30, and 34, none of the prior arts of record, in combination or individual, show or make it obvious a video bandwidth signal frequency converter system having associated circuitries of an input signal interface, an output signal interface, first & second single sideband mixer, wherein each of the single sideband mixer comprises first phase shifter for accepting and splitting the input signal wherein the two input signal components have a predetermined non-zero phase

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differential, second phase shifter for accepting and splitting the carrier signal wherein the carrier signal components have a predetermined non-zero phase differential, first and second mixers for providing a first mixed & image signals, respectively, and wherein the first & second mixed signals are substantially constructively combined and the first & second image signals are substantially destructively combined.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pablo Tran whose telephone number is (571)272-7898. The examiner normal hours are 9:30 -5:00 (Monday-Friday). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached at (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) System. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-directauspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PABLO N. TRAN
PRIMARY EXAMINER

June 10, 2006

A handwritten signature in black ink, appearing to be 'P. Tran', with a long horizontal flourish extending to the right.

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